



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,721	07/06/2004	Hiroaki Sudo	L9289.04146	6718

24257 7590 03/22/2007
STEVENS DAVIS MILLER & MOSHER, LLP
1615 L STREET, NW
SUITE 850
WASHINGTON, DC 20036

EXAMINER

KHAN, IBRAHIM A

ART UNIT	PAPER NUMBER
----------	--------------

2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/500,721	SUDO, HIROAKI	
	Examiner	Art Unit	
	Ibrahim A. Khan	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/06/2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 3, 5 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tanaka et al. (US 5781542)** in view of **Hwang (US 20020060997)**.

Consider **claim 1 and 9**, **Tanaka** discloses a CDMA transmitting apparatus (*abstract*) comprising:

a code division multiplexing section that increases a number of spreading codes assigned a signal (*abstract, figure 3, column 1 lines 36-44, 46-66, column 2 lines 20-41, 49-55* where

Art Unit: 2617

Tanaka disclose a system that adaptively changes the number of spread codes assigned to a signal to provide optimum transmission quality and reduce errors) and a transmitting section that performs radio transmission of a multicode-multiplexed retransmission signal (*see figure figures 1 and 2*). Tanaka however, does not specifically disclose that the system increase the number of spreading codes assigned to a retransmission signal as a number of retransmissions increases and performs multicode multiplexing of a retransmission signal. In the related art Hwang discloses performing retransmission after increasing the number of transmission multicode codes (*see abstract, see fig 5 and 6, page 1 paragraph 0003, page 3 paragraph 0051-0056, page 5 paragraph 0082*)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tanaka with the teachings of Hwang to maximize the CDMA capacity and minimize signal to interference ratio (*page 1 paragraph 0017*).

Consider **claim 3** and as applied to claim 1 above, Tanaka as modified by Hwang disclose wherein said code division multiplexing section varies a number of spreading codes assigned to said retransmission signal in accordance with a number of other code division multiplexed signals multiplexed in said retransmission signal after multicode multiplexing (*abstract, figure 3, column 1 lines 36-44, 46-66, column 2 lines 20-41, 49-55*) (Hwang, *see fig 5 and 6, page 1 paragraph 0003, page 3 paragraph 0051-0056, page 5 paragraph 0082*).

Consider **claim 5** and as applied to claim 1 above, Tanaka as modified by Hwang disclose a transmission power control section that increases transmission power of said

Art Unit: 2617

multicode-multiplexed retransmission signal as a number of retransmissions increases (*see Hwang page 1 paragraphs 0008-0011, page paragraph 0021, page 3 paragraph 0056*).

Consider **claim 7** and as applied to claim 5 above, Tanaka as modified by Hwang disclose wherein said transmission power control section varies said transmission power in accordance with a number of other code division multiplexed signals multiplexed in said retransmission signal after multicode multiplexing (*see Hwang page 1 paragraphs 0008-0011, page paragraph 0021, page 3 paragraph 0056*)

4. **Claims 2, 4, 6, 8 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tanaka et al. (US 5781542)** in view of **Hwang (US 20020060997)** and in further view of **Uesugi (US 20040042386)**.

Consider **claim 2 and 10** and as applied to claim 1 and 9 above, Tanaka as modified by Hwang disclose using orthogonal spread codes but does not specifically disclose an orthogonal frequency division multiplexing section that forms an OFDM-CDMA signal by distributing a multiplexed spread signal among a plurality of subcarriers. In the related art Uesugi discloses an orthogonal frequency division multiplexing section that forms an OFDM-CDMA signal by distributing a multiplexed spread signal among a plurality of subcarriers (*figures 1 and 2, page 1 paragraphs 0003 and 0002, page 2 paragraph 0024, page 5 paragraph 0055*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the teachings of Tanaka as modified by Hwang with the teachings of Uesugi to provide frequency utilization efficiency *page 1 paragraph 0003*).

Consider **claim 4** and as applied to claim 2 above, Tanaka as modified by Hwang and Uesugi disclose wherein said code division multiplexing section varies a number of spreading codes assigned to said retransmission signal in accordance with a number of other code division multiplexed signals multiplexed in said retransmission signal after multicode multiplexing (*abstract, figure 3, column 1 lines 36-44, 46-66, column 2 lines 20-41, 49-55*) (Hwang, *see fig 5 and 6, page 1 paragraph 0003, page 3 paragraph 0051-0056, page 5 paragraph 0082*)..

Consider **claim 6** and as applied to claim 2 above Tanaka as modified by Hwang and Uesugi disclose a transmission power control section that increases transmission power of said multicode-multiplexed retransmission signal as a number of retransmissions increases (*see Hwang page 1 paragraphs 0008-0011, page paragraph 0021, page 3 paragraph 0056*).

Consider **claim 8** and as applied to claim 6 above, Tanaka as modified by Hwang and Uesugi disclose wherein said transmission power control section varies said transmission power in accordance with a number of other code division multiplexed signals multiplexed in said retransmission signal after multicode multiplexing (*see Hwang page 1 paragraphs 0008-0011, page paragraph 0021, page 3 paragraph 0056*).

Conclusion

5. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ibrahim A. Khan whose telephone number is (571) 270-1110. The Examiner can normally be reached on Monday-Friday from 8:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

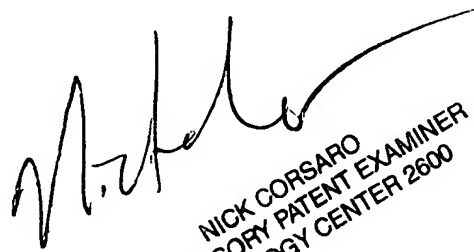
Art Unit: 2617

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Ibrahim A. Khan
I.A.K./iak

03/13/2007



NICK CORSARO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600